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IVER IMPROVEMENT LAWS

IN OTHER STATES AND COUNTRIES.

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River Improvement Laws in Other States and Countries

By Ernest Bruncken, of the California State Library

I.

The Netherlands.

Of all countries in the world none has had more experience than the Netherlands in the management and regulation of floods and the reclamation of lands subject to overflow. As is known to everybody, the greater part of that country has been so reclaimed, partly from the sea, partly from the great rivers in whose delta region it lies, and most of the land would disappear beneath the water, if the magnificent system of levees, canals and other protective works were suffered to decay.

Under these circumstances it is evident that a study of the reclamation and protection laws of the Netherlands must be of great value to Californians who are interested in a similar undertaking, the reclamation of the delta lands of the Sacramento and San Joaquin Rivers, and their permanent protection from floods. This study will be all the more fruitful because the Netherlands are like the Americans, jealous of their local self-government and little inclined to allow their rulers much power of interference with private rights and property. If their laws, no matter how beneficial and effective, had been imposed upon them by some despotic authority, their experience could be a guide to us in much less degree than is now possible.

In analyzing the history of water laws in Holland, one is struck at once with the fact that their experience has been similar to that of California in two respects especially. One may say that the main obstacles to the solution of the river question in this State have been the tendency to treat the matter as one of principally private concern for the abutting land owners, and secondly, to intrust the care of levees and other works to local agencies without unity of plan or effi-

cient supervision. Both of these tendencies have been characteristic of the Netherlands also, and it is but within comparatively recent times that the Dutch have fully understood that disastrous floods can be prevented only if the entire system of protection is planned as a unit, effectively supervised by some central authority, and everything connected with it treated as a matter of public concern. This does not preclude the imposition of special burdens on individual tracts of land, where special benefits accrue to them from the protective works.

It appears that the pernicious habit of treating the maintenance of levees as the private concern of the land-owners was by no means in accordance with the earliest practice in the Netherlands. The people of the middle ages were wiser than their descendents, for in the old Friesian laws we find the principle that every land owner must keep a certain portion of the dyke in repair, on pain of forfeiting his land to anyone who would agree to undertake the burden. Officials elected by the community saw to it that the law was duly observed. But imperceptibly the salutary rule fell into disuse. The supervision became lax; land-owners would sell part of their land with the condition that the purchaser should do the levee work for the whole tract, although he often was financially unable to do so; new reclamations were undertaken by individuals or private associations, and the new protective works made necessary thereby were not subject to the supervision of the officials. Gradually there arose such a tangle of private easements, duties, privileges, exemptions and conflicting rights in connection with the "waterstaat" (the Dutch name for everything connected with levees, canals, reclamation work and the like), that no effective maintenance was possible. Thus it came about that after some great floods, as for instance, the terrible Christmas flood of 1723, many thousands of fertile acres lay waste and unprotected for years, while owners and public authorities were engaged in interminable lawsuits.

In the course of time, a great many associations of land-owners had sprung up, comparable in many re-

spects to the levee districts of California. Most of these were essentially private corporations, but many of them had been given public powers of various kinds, such as the right to compel contributions from the lands within the district. But there was no sort of uniformity in the powers possessed by each "waterschap," as they are called. This added to the intolerable confusion.

The first serious attempts at reform were made during the Napoleonic domination of Holland. When the present Kingdom of the Netherlands was established, four articles regarding the "waterstaat" were inserted in the constitution (Sections 188-191). By these provisions the central government has the supervision of all matters relating to the waters of the country, and it is the duty of parliament to pass laws regulating them. The power of the King to supervise exists whether the works are paid for out of the general or a local treasury. To the local bodies managing protection or reclamation works is reserved the right to make by-laws and manage their own affairs.

Although the tendency of the constitutional provisions was evidently to give to the government the fullest power of supervision, the old notion that reclamation and protection work was principally a private affair did not at once disappear. For a long time an influential party tried to whittle away the powers of the government by strict construction, contending among other things that the supervising power of the King referred only to districts and corporations created by the central or local governments, but not to associations originating in purely private agreements, or to individuals undertaking reclamation work. But finally the contrary view, advocated especially by the famous statesman, Thorbecke, prevailed, and to-day it is an acknowledged principle of Dutch constitutional law, that all work connected with the improvement or regulation of rivers, the reclamation of overflowed lands, the building of canals and locks, the erection and maintenance of levees and other protective work, is of a public nature and subject to regulation and

supervision by public authorities, no matter what the interest of private parties may be in the premises.

After the constitution had established the principle, that all reclamation work is subject to supervision by the central government, the legislature did not at once put this principle into practice, largely on account of the opposition of those who still clung to the old notions of private enterprise. For almost a century, numerous and not rarely contradictory experiments were made, and the books are full of complicated laws and executive regulations, successively repealing each other. Few subjects were debated so frequently in parliament, by specially appointed commissioners, and in the public press. Out of all these discussions and tentative laws finally grew a great, comprehensive measure, which became a law by receiving the royal sanction on November 10, 1900.

According to this act, the Water Service is a branch of the Ministry for Water Affairs, Commerce and Industry. All plans for contemplated work affecting the waters of the country, no matter by whom done, must be submitted for approval to the Ministry. A provision is made, however, for emergencies, when work may be done without first obtaining such approval. But all such emergency work may be stopped by order of the supervising authorities. So may work not in accordance with the approved plans, or for which no permit has been obtained. The supervising board or official may also order emergency work done when the parties whose duty it is to do so have neglected it, except where danger threatens only the negligent party itself. Where a local board has been ordered to do certain work, the necessary money may be advanced from the provincial or imperial treasury.

New water districts may be established by the provincial estates, which, in a very rough way, correspond to our County Boards. Before establishing such districts, notice of the intention to do so must be given to the public, and all interested persons allowed to be heard. Until the act of 1900, no new districts could be established without the consent of a certain percentage of the land-owners. This provision was omitted

from the new law on the express ground that henceforth the work of these districts was to be considered as exclusively of a public nature, and the wishes of individuals should not obstruct the general interests. Since the law has gone into operation, many districts originally organized as private assocations have asked for leave to organize under the new system as public districts, and it is expected that gradually all private water associations will be converted into public reclamation or levee districts. Some of these private associations were organized as late as 1863, but the great majority are very old. The reason for the desire to reorganize is usually that the public district has certain compulsory powers over its members which the private association does not enjoy.

In many cases the duty to maintain dykes, locks, canals and other works rests, not upon a private association or public district, but upon certain lands, on which it is in the nature of a lien or incumbrance. In all such cases, the owners of the land may apply for admission to a district, whereupon the latter will assume the duty and the owner will simply render an equivalent money payment. Owners of land thus incumbered are rapidly availing themselves of this provision, which is obviously to their own advantage as well as that of the commonwealth. Where a land-owner does not choose to come in under this clause, he is, nevertheless, compelled to conform to the plans of work and the regulations adopted by the district that may adjoin his land. In this way it is henceforth impossible for a stubborn land-owner to obstruct improvements desired by his neighbors or required by the general welfare, as was very often the case before the new law was passed.

The act provides that the provincial authorities may, with the consent of the crown, assume the management of any levee or other protection work theretofore maintained by other parties, public or private. In such cases, no compensation is to be paid, but all future expenses are to be borne by the provincial treasury. The lands which have borne the burden of maintenance in the past may be assessed by the provincial

estates, but not at a higher rate than they have paid before.

There is also a provision in the act, that the central government may take over such protection work as seems to be of direct importance to the entire country. But as a separate law is necessary to determine upon the assumption of any particular work, this provision seems rather superfluous.

Such are some of the principal provisions of the Dutch law regarding the supervision to be exercised over the local protection work. It is very apparent how completely the Dutch authorities have realized that their many miles of sea and river dykes must form a single body, supervised by a single authority, and with every part maintained in harmony with every other. The next subject to be considered is the interior administration of the water districts, with the powers and duties they possess.

II.

(The Netherlands, Continued.)

In all water districts organized under the laws of 1900, the governing Boards are appointed by the Crown, upon recommendations of the Provincial Estates. The only exception are districts managing polders (reclaimed tracts) with dykes or levees intended merely to keep out the water at ordinary tide but not at flood stages (so-called summer dykes). These latter are managed by Boards appointed by the Provincial Estates.

Water districts organized as private corporations elect their Boards in any manner to suit themselves, except where there exist ancient rights of the local or central government to have a voice in the management. Such rights are very common, for from the earliest times it had been recognized, that on the activity and efficiency of the water district officials depended the very existence of the soil, so that it seemed hardly safe to leave the management entirely to the possible incapacity or selfishness of private parties.

When the managing Board of a district has once been appointed, it exercises considerable discretionary authority, subject, however, in many cases to the supervision and veto power of the Provincial Estates or the Crown. It may pass rules and regulations for the management and maintenance of its property with penalties for disobedience, and levy assessments upon all the lands within the district for the erection of new works or the maintenance of the old ones. A water district is a public corporation, and may sue or be sued as such; but, notwithstanding, a money judgment recovered against it becomes a lien upon all the land within its limits. The assessments levied by itself are also liens upon the land, and cannot be enforced

against the land-owners personally. In fact, these corporations have been aptly described as "not so much associations of persons, as conjunctions of land parcels into a unit protected by the same system of levees and canals." The lien of district assessments takes precedence over all other incumbrances of any kind whatsoever. It is evident that these stringent provisions go far to make the districts efficient. For if they should, through mis-management, become insolvent (as is not entirely unknown among similar public corporations in California), their credit would not necessarily be destroyed so that works could not be completed or properly maintained. The creditors would feel that every acre of land within the district is part of their security. On the other hand, every land-owner has a very strong motive in seeing to it that the affairs of the district are skillfully, prudently and honestly managed. He has the means of enforcing this, although District Boards are not elected by the land-owners, through his vote for the Provincial Estates, which recommend the appointment of the Directors to the Crown, and exercise supervision over them.

Express provision is made in the law for bringing the works undertaken by the various districts, private associations or individuals into accord, so that instances, so common in California, cannot happen where the work of one party hinders that of another, or even threatens it with destruction. Cases are by no means rare along the Sacramento, where the current has been turned deliberately from one man's land upon that of another. Even worse is something that occurred not very long ago. There a land-owner sold a part of his land, but retained the portion lying farthest up stream. Then he removed the levee in front of his own land and used the material to fill up so much of it as was low. As a result, the piece he had sold was flooded and became practically worthless. Such selfishness could not possibly succeed under the law of the Netherlands. The necessity of submitting the plans for all changes in existing levees, as well as all new work, to the scrutiny of the central govern-

ment would alone suffice to prevent schemes of saving one individual's land without regard to injuries inflicted upon a neighbor. But lest one land-owner sit idly by and profit from the works undertaken by another, without expense to himself, the law provides an equitable method of enforcing contribution. Where works are undertaken by one district, which confer a special benefit also upon another district, association or private owner, the former district may ask the other to contribute. Ifthey cannot agree, the Executive Committee of the Provincial Estates (Gedeputeerde Staten) will act as arbitrators, and from their award an appeal lies to the Crown, which in practice means the Ministry of Water Affairs, Commerce and Industry.

Among the powers of public water districts is that of condemning property for the use of the levees and canals. The condemnation takes place according to the procedure generally prescribed in such cases, and extends not only to the land itself, but also to earth, sand and other materials. The law expressly provides that where earth or the like is taken to build the levee, damages may be awarded not merely for the market value of the material but also the detriment suffered by the land itself. In this, as in other cases, it is evident how the law aims at scrupulous justice to individuals, and yet arms the public authorities with every power needed for the safe-guarding of the public interests. It should be noted in this connection, that in a great many cases the districts are the successors to ancient easements of taking material for levee purposes from lands, so that neither condemnation proceedings nor payments for such material become necessary. Water districts may own property outside of their own limits, and often do so, especially in the case of water gates and locks. But they own these on the same terms as private associations or individuals; that is, they have no power to assess abutting owners for the maintenance of the works.

A further important right of the water district authorities is that of entering upon private lands for carrying on their work. This includes anything from

merely passing over the land to the driving of piles, so long as no question of title or possession of land is involved. Especial mention is made in the law of electric wires, both above and under ground. No proceedings are necessary in such cases except forty-eight hours' nótice to the occupant of the premises. The only places exempt from such invasion are dwelling houses and gardens or other inclosed places connected therewith.

In four enumerated cases the district officials may enter even into dwelling houses against the will of the owner. They may do this for the purpose of investigating the condition of protection works; to make sure that the laws, rules and regulations regarding the protection works are being obeyed; to do work ordered done by the proper authority (where a party whose duty it is to do such work, fails to do so); and finally, in case of imminent danger, in order to take the proper steps for the protection of the levees. In the first three cases, they must be armed with a warrant issued by the proper authorities; in the fourth no such formality is required. But in all cases, the officer must, within forty-eight hours, draw up a formal statement of all his acts and proceedings, one copy of which is to be filed in the office of the district, while another must be delivered to the party whose premises were entered.

The fourth of these cases, when district officers may enter on private premises, even without a warrant, in order to protect levees from imminent danger, leads us to the very great powers which the water districts may exercise in emergencies. These extraordinary powers are divided by the act into two classes: those arising whenever danger is expected in the near future, and those becoming effective only in the presence of actual dangers. The distinction may not be entirely clear, but an illustration will show its meaning. A little while ago the City of Sacramento became anxious because at the place where new railway tracks crossed the levee at its northern boundary, there was a gap in the embankment. So the authorities took

steps to expedite the putting in of flood gates before the winter rains should bring the American River to flood stage. This was a case of expecting danger in the near future, and in a similar case, a Dutch water district would have authority to exercise the first class of its emergency powers. But if during the coming spring the waters should threaten a break in the levee, it would be a present danger, and the still greater emergency powers of the second class would immediately be available to the officials of a water district in the Netherlands.

The most important of the first class of emergency powers is that of suspending all rules and regulations which may hamper the speedy execution of necessary work. The class of cases contemplated is analogous to provisions familiar to the organic laws of many public corporations in America; for instance, the common requirement that all contracts shall be let to the lowest responsible bidder after publication for a prescribed time and in a prescribed manner. The act expressly mentions that plans for the erection of emergency work need not be submitted to the Ministry. The power to suspend extends not only to the rules and regulations of the district, but also to provincial ordinances. It is even held by some that a law of Parliament might be suspended in a proper case, but this is disputed by other lawyers. The fact that the act expressly mentions the suspension of the duty to submit plans, would go to show that Parliament itself did not construe the powers of the district quite so liberally.

When the flood is actually threatening to break through the dyke or destroy flood gates, locks and canals, the authority of the district officer in charge becomes for the moment almost unlimited by virtue of the emergency powers of the second class. He may then summon every inhabitant of the neighborhood to assist in the defense; he may take tools, earth, straw, hay, wood, in short anything needed wherever he finds it; he may requisition horses or other domestic animals required for the work. In exercising these discretionary powers, he need not confine himself to

his own district, but may take what he needs anywhere in the neighborhood. The power of the district to take property in emergencies without any preliminary proceedings extends even to the taking title to land in certain cases. This occurs where a levee has to be abandoned and a new levee hastily thrown up behind it. If after the flood has subsided the old levee can be re-established, it is the duty of the district to do so and to put the place where the temporary dyke was built as nearly as possible into its old condition again. But if the re-establishment of the old line of defence should prove impossible, no further proceedings are required to convey the title to the land on which the new levee stands to the district. Where personal property has been taken in emergencies of this kind, the district is not obliged to compensate the owners, nor are the persons summoned to labor entitled to pay. On the other hand there is nothing to prevent the district from rendering such compensation, and it may be presumed that in modern days this is done in most cases.

The very extensive emergency powers of officers charged with the maintenance of levees are nothing new. They have been the law from immemorial times, not only in what is now the Kingdom of the Netherlands, but in all regions of Northern Germany, where similar conditions prevail along sea coast or river. Essentially modern are some provisions to check possible abuses of the power. Under the Netherlands act of 1900, only those districts enjoy the powers of the second class which actually need them, and whether that is the case must be determined by the Provincial Estates. After the peril calling forth the exercise of an emergency power is over, the district must immediately report all that was done to the Provincial Estates, which in turn report to the Minister of Water Affairs. This is no mere formality, as the Crown may at any time remove members of District Boards, and would undoubtedly do so in case of flagrant abuse of power. If a district should neglect its duty to bring premises injured by the taking of materials as nearly

as possible to its former condition, as for instance by proper leveling and grading, or by replacing piling that may have been removed, the Provincial or Central Government, as the case may be, will step in and do the work, recovering the expense from the district. By such measures as these any excess of zeal on the part of districts in the exercise of their emergency powers is very effectively prevented.

The interior management of the districts is not regulated by law, so that the Boards have full power to employ such subordinates as may be needed in such case. Invariably, at least a small staff is permanently kept to supervise the condition of the works. If necessary, men are hired to patrol the dyke, especially in the dangerous season. Slight injuries to the levee, as by burrowing animals, are never allowed to pass unnoticed, as is too often the case in California. By maintaining a levee, the Dutch mean maintaining it always in fit condition, and not indulging in alternate fits of expensive repairs between long periods of neglect.

The administrative machinery of other countries with similar conditions as the Netherlands naturally differs, but everywhere along the coast of the North Sea the same object is in these modern days kept in view: The maintenance of levees as a public function, not an enterprise primarily of private concern. A brief glance at the system prevailing in Prussia may conclude this survey, to be followed by a glance at the methods of some other States of the Union, especially Mississippi, Louisiana and Arkansas.

More detailed information on the water laws of the Netherlands may be had from the following books in the State Library:

Schepel, C. J. H., Waterschaps-Wetgeving. Kooiman, D., Waterschaps-Wetgeving. Beekman, De Strijd om het Bestaan. Loosjes, Waterstaatswetgeving voor 1813.

III.

The Kingdom of Prussia.

If the laws and customs of the Netherlands formerly presented a picture of confusion in their dealing with levee and reclamation matters, the neighboring Kingdom of Prussia suffered infinitely more from the same circumstance. The greater extent of the country with the consequent variety in natural conditions was but one of the causes. The fact that the present Kingdom is a conglomeration of a great number of separate territories, each having formerly had a distinct political existence, with differing customs and interests, made the task of unifying their water regulations exceedingly complicated. But the problem was solved more easily than otherwise could have been the case because until the year 1848 all legislative power was concentrated in the crown, which was strong enough to compel submission of the warring interests. On the very eve of the revolution that brought about the end of absolute government in Prussia, on January 28, 1848, a general law was promulgated by the King, which established for the whole State the levee law still in force in the greater part of Prussia.

The first great principle contained in this law is analogous to the underlying thought of the Netherlands Act of 1900. It is that the building of levees is a public affair. In many parts of the country this principle had been recognized for generations, but elsewhere each land owner was left free to protect his own land in as efficient or inefficient manner as he chose, without any particular duty towards his neighbors or the community. Now the new law provided, in its first paragraph, that no levee, dam or similar raising of the surface anywhere within districts subject to in-

undation may be newly made, changed, raised, partly or wholly destroyed, except after express authorization by the county authorities. (The body in charge of this matter is the Bezirks-Ausschuss, or County Committee, a board of appointed, permanent officials; there is in Prussian rural government no elective body corresponding to our county boards.) The only exception to this rule is temporary works thrown up in emergencies. The County Committee cannot grant permission until all parties interested have been heard, and if the Committee is not sure that all interested parties have notice, it must make publication in the local papers and also notify the various "Gemeinden" or townships. The burden of proof is on the applicant to show that no appreciable injury will be done to others, and if it is necessary to make an examination by experts he must foot the bills.

In view of these elaborate provisions it seems rather strange that the highest penalty for changing a levee without permission is a fine of fifty thaler (about $37), together with the duty to restore the former condition. On the other hand, the punishments for wilfully or negligently injuring dykes or other protective works are severe. For wilful injuries that may endanger life or health, the punishment is imprisonment in the county jail for not less than three months. If a person was seriously hurt, imprisonment in the penitentiary for not more than five years, and if anybody came to his death, a penitentiary sentence for not less than five years is threatened. If the injury to the dyke was negligent, and death resulted, imprisonment in the county jail for not less than three months nor more than three years may be inflicted.

Permission to make changes will not be granted, if the county committee thinks that thereby the runoff may be hindered. If a levee needs repairing the committee may order it done according to its own plans, but at the expense of the land-owner. It may also order such changes as may be necessary to maintain a levee system in its present condition, but cannot ar-

bitrarily order the establishment of an entirely new system.

The duty to build and maintain dykes is in very many cases a servitude attached to certain parcels of land; these duties, varying infinitely in their detail, are mostly come down from great antiquity, and naturally give rise to a good deal of litigation. Formerly it was no unusual thing for a levee falling into decay while the land-owners quarreled in the courts as to whose duty it was to maintain it. To make this impossible the present law gives the County Committee power, whenever there is doubt as to who ought to repair a dyke, to compel either the party that has theretofore done it, or if no such party can be quickly found all the owners whose lands are protected by the dyke, to repair the works. The parties may then sue the true party to recover their expenses.

From all orders of the county committee in these matters an appeal lies to the Department of Agriculture. It must be taken and all documents, including any new evidence, submitted within four weeks, and does not suspend the execution of the work ordered. All assessments or orders to do work are a first lien of the land. If the owner does not obey, his land may be sold by the sheriff.

While the building and maintenance of dykes is primarily the duty of the individual land owner or the owner of land encumbered with an easement to that effect, the land owners of a district that can be protected by the same system of works may petition the County Committee for the establishment of a Levee Association (Deich-Verband). Or the County Committee may establish one on its own motion, after giving all parties interested an opportunity to be heard. Similarly as in the Netherlands, associations of this character have existed for many generations. They were, however, private corporations, and when the new law appeared many lawyers continued to claim that the organizations provided therein were of the same private character. This would make considerable difference, especially with regard to the effect of

the by-laws and the manner of their enforcement. All doubts were set at rest, however, by a decision of the Supreme Court rendered April 12, 1875 (Entscheidungen, vol. 75, page 1). According to this, these associations are public bodies, their constitution and by-laws binding upon everybody within their local jurisdiction, and rules of evidence or construction applicable to private corporations do not apply to them.

The expense of building and maintaining levees in charge of a Levee Association is distributed equitably among all lands within the district, capable of producing a revenue. The Association may, in its by-laws, prescribe the mode of assessment, but the law specifies that only under special local circumstances may a method be adopted, different from that of setting-off benefits and damages against each other. A very important provision is one declaring that hereafter no parcel of land shall be exempt from contribution to levee expenses, "not even on the ground of prescription." This provision does away at once with the entire tangle of privileges, exemptions and easements by which in the course of centuries land-owners, through clauses inserted in conveyances, had tried to shift the burden of protecting the land upon other shoulders, with the result that it finally came to rest mostly on those least able to bear it. Now that the work of protection has become a public duty, even those who were heretofore exempt by means of private agreements, must share equitably in the cost.

The law of 1848 was supplemented by an order in council, issued November 14, 1853, by which a sort of skeleton constitution for all dyke associations was established. All associations under the act conform to this skeleton, but fill in the details according to their local circumstances or needs. Accordingly the associations are organized in the following manner:

The chief officer is a Dyke Captain (Deich-Hauptmann), who is elected by the representatives of the members for six years and confirmed by the County Committee. A Vice-Captain is elected in the same manner. The Captain is both the secretary and the

executive officer of the association. The representatives also elect an Inspector, who is the technical engineering officer. A Treasurer is employed by contract, and receives a commission on all moneys collected by him.

The legislative authority is vested in a board (Deichamt), composed of the Captain (or Vice-Captain), as chairman, the Inspector, and the representatives of the members. The number of the representatives, as well as the mode of election, or appointment, is left to local by-laws. The board meets in regular session twice a year, and as often as is necessary in addition. The resolutions of the board are transmitted to the County Committee, which may exercise a veto in the following cases: All resolutions to create a bonded indebtedness; projects for the establishment of new works, changes in location, razing of existing dykes, or closing of breaks; sale of lands belonging to the association; and fixing the compensation of Captain and Inspector. If the compensation of these officials were fixed at an absurdly small sum, the county committee would have power to raise it.

The board may divide its territories into sub-districts and with the consent of the Captain appoint two dyke jurors for each sub-district from among the members of the association. The jurors are to assist the Captain, and especially keep a watch over the levees and other works in their jurisdiction. They often act as superintendents over labor done on the dykes, and in such cases are entitled to a moderate compensation. Twice a year, in May and October, a general inspection of the works must be made, at which the Captain, Inspector, the jurors and at least two of the representative members of the board must be present. These inspections are by no means a perfunctory affair; a detailed report and findings must be made and spread on the minutes of the board.

The board has, of course, full power to provide for all minor officials, such as foremen, lock-keepers, guards and the like. These are appointed by the Captain with the advice of the board. There are general

provisions in the law, prescribing in considerable detail the duty of boards, as well as of private individuals or associations, which maintain levees, to have watchmen in times of danger and to make frequent inspection of the condition of the works. Where private parties neglect such duties, the county boards will assume them and recover the cost from the parties, if necessary by execution. The associations are given emergency powers, substantially of the same character and extent as those we found in the Netherlands. Where no associations exist, the county committee will, through its officers, exercise this authority, and assess the expense upon those obliged to maintain the levee. Considerable fines are provided for those disobeying the authorities during danger periods, or refusing to assist in the protection of the works, besides imprisonment for certain more serious cases. Only children under 16 years, women and invalids or sick persons are exempt from emergency duty. The fines, by the way, as is common in Germany, are assessed by the administrative authority without a judicial proceeding. The defendant may appeal to a court of justice within a given period; if he fails to do so, the fine becomes collectible by execution. This seems to be a simple and inexpensive way of enforcing police ordinances.

The law also contains certain restrictions upon the property rights of owners abutting on public levees. Thus, no ditches or wells must be dug, no buildings erected, no earth or other material may be taken within a prescribed distance from the dyke. The Levee Association or the County Committee has full powers of condemning property, as well as rights of entry for the purpose of doing work, quite similar to those possessed by analogous authorities in the Netherlands.

Positions on the association boards, and especially the office of the Dyke Captain, are considered very honorable and eagerly sought by the most prominent landowners. It is an interesting fact that the first office ever held by Bismarck, the founder of the German Empire, was that of Dyke Captain.

The law of 1848 does not apply to the new Prussian provinces, that of Schleswig-Holstein, acquired in 1864, and Hanover, conquered in 1866. These districts, which have natural conditions substantially like those of the Netherlands, already enjoyed levee laws not very different, at least in their underlying principles, from those of Prussia, and so they were left undisturbed. The laws of the little state of Oldenburg likewise are not very different from those prevailing among its neighbors. In all these cases two great principles stand out clearly and impressively. First, that the reclamation and protection of the land is a public, not a private concern, and secondly, that it is the business, not merely of the particular locality, but of the entire commonwealth.

Further details of the levee laws of Prussia may be learned from the following books in the State Library: Hahn, Oskar, Preussische Gesetz-Gebung ueber das Deichwesen; Hue de Grais, Graf, Handbuch der Verfassung und Verwaltung in Preussen.

IV.

American Laws Outside of California.

No State of the Union is more dependent for its welfare on a system of river improvements than Mississippi, and consequently the experience of that commonwealth cannot fail to be of interest to Californians. As elsewhere, the beginnings of a levee system date back to the beginning of settlement. At first each planter in the districts subject to overflow built his own levies, which was here as elsewhere utterly unsatisfactory. Then an attempt was made to have the levies taken care of by the regular county authorities, in the same manner as highways and bridges. This plan worked fairly well until the civil war, but perhaps only because there was little land to be protected. For in those days the alluvial bottoms of the state, although they are by far the richest portion, were but sparsely reclaimed and settled. The war period, and worse than that the time of reconstruction, interrupted all systematic efforts at reclamation or protection and left nothing but a huge debt fraudulently incurred by the carpet-bag government.

But by two laws passed in 1884, the entire matter was put on a new basis, and just as was the case in Holland, in Prussia, and elsewhere, the reform brought along the recognition of the two vital principles of all river regulation: First, that all such work is of a public nature; and second, that it can not be left exclusively to the local authorities. The latter principle was not carried out entirely, for the river basin is divided into two levee districts, although hydrographically it is but one, and there is no provision for superintendence by a central authority, beyond the simple requirement of an annual report to the Governor.

The reason why two districts instead of one were created seems to have been the practical one that in

the lower portion of the basin settlement and reclamation had progressed considerably more than above. The two districts, known respectively as the Yazoo-Mississippi Delta Levee District, and the Mississippi Levee District, continue to exist as distinct bodies, but are governed on substantially the same plan. The provisions establishing these districts were embodied in the constitution of 1890, and still form article eleven of that instrument.

The districts are each governed by a Board of Commissioners, composed of two members from each county in the district, appointed by the Governor from among the qualified electors. The Governor may also, in his discretion, appoint an additional commissioner, who shall be a stockholder in the Louisville, New Orleans and Texas Railway Company. This peculiar provision is explained by the fact, that at the time of organization the districts had neither cash nor credit at their disposal; but the railroad, which could not run its trains unless levees were kept up, came to the rescue, and by furnishing both labor and cash made the success of the plan possible. The commissioners are appointed for two years, end give bonds in penalties to be fixed by the Legislature, but never to be less than $10,000.

The levee boards have ample powers to appropriate, by voluntary purchase or through the power of eminent domain, such property as may be needed for their purposes. The expenses of the work are met in part by bond issues. The payment of these is provided for, in part, by a tax of thirteen mills on the dollar on all property, real and personal, in the "front counties," and nine mills on property in those counties in the district less immediately exposed to flood danger. In order to make the collection of this tax more certain there is a provision that if any person enjoins the Board from collecting, and he does not make his claim good on final decree, he must pay twice the amount of tax originally assessed against him, in addition to all costs of the proceeding. The device seems to be successful, for thus far the reports of the Mississippi Supreme Court show no cases where levee taxes were enjoined. In addition to this prop-

erty tax, there is a tax on all cotton raised in the district, amounting to one dollar per bale in the "front counties" and eighty cents elsewhere; an acreage tax of five cents on every acre of land in the district, and finally a privilege tax (by which is meant a license fee) on a large number of occupations. The latter is in addition to a State license fee on the same occupations.

It is evident that the people of Mississippi, or rather those living within the exposed area, are willing to tax themselves heavily indeed for the maintenance of their levees. The result has been, that they now have a very satisfactory system of levees, as is shown by the fact that for the first time in the history of the State, in the year 1906, a very high water stage passed by the levees of the two districts without a single break or other considerable damage.

The commissioners have power to strengthen, repair and improve any existing levee, public or private, in their district, but are prohibited from paying for the right to do so. They are enjoined to work in harmony with the federal authorities charged with maintaining the navigability of the river, and expressly authorized to transfer the entire levee system to the United States, if the federal government should ever desire to undertake the work of protection.

Proper penal provisions are made to protect the levees. They are not to serve as highways, and whosoever drives thereon is liable to a fine of not less than ten dollars. The cutting of a levee is a felony, punishable by imprisonment in the penitentiary for not less than three nor more than ten years.

The commissioners appoint inspectors, who must keep an eye on the condition of the levees and in time of high water make a daily inspection within their beats. Upon any emergency or danger, "of which the inspector shall be the exclusive judge," he may call out the entire male population, between sixteen and fifty years, within ten miles of the threatened work, to labor upon the levee. Heavy fines, together with imprisonment, are provided for refusal to obey such summons.

Very much less satisfactory than in Mississippi are the levee laws of the neighboring State of Arkansas, although the larger part of that commonwealth needs a scientific system of protection just as much as its sister State across the river. In Arkansas, as elsewhere, there were at first private levees only. They were weak, unskillfully built "potato ridges," very often erected in such a way as to throw the current over on some neighbor's land, and gave rise to many quarrels and lawsuits. The first attempts at regulation were merely police measures, such as making the injuring of levees a felony, or to prohibit the digging of "cut-offs" to change the current. There were also a few isolated attempts at building levees by counties and by the State. In reconstruction times, levee districts were first organized, but their operations, as was the usual thing in that dark period, resulted in nothing but waste of public funds and the heaping up of a more or less fraudulent debt. In 1879, a general act was passed providing for levee districts, managed by elective boards and having the power of levying assessments on the benefit and damage principle.. To prevent a repetition of the carpet-bag frauds, these districts were expressly prohibited from issuing bonds or incurring other indebtedness, except for current expenses, and the rate of assessment was limited to five mills. This, of course, made all really effective work impossible.

But Arkansas, like other Southern States, has the primitive habit of legislating by special, private and local enactments. When people found the general levee district law inconvenient, they had themselves erected into a district by special act. Up to 1904, seven such districts were incorporated, some of them of considerable size, as for instance the St. Francis district, comprising portions of seven counties. The organization and powers possessed by these corporations differ considerably in detail, but are substantially alike to the levee and reclamation districts with which we are familiar in California. As to how many districts are organized under the general law, there are no accessible data. A number of the specially incorporated districts have been given permis-

sion to issue bonds; others have received large donations of State lands. The queer method of special legislation is shown among other things in long series of acts prohibiting the running at large of hogs in some particular district, instead of a general act putting a stop to this particular nuisance.

The chief fault of the Arkansas system seems to be the lack of unity caused by the existence of numerous districts, each working independently, without even the trace of general supervision.

Far more rational than the system, or perhaps one should rather say, lack of system prevailing in Arkansas is that adopted by the State of Louisiana. It includes a number of levee districts, managed by a board of three commissioners. These are appointed by the Governor from among the land-holders resident in each district. The board has ample power to raise funds, and full authority to maintain and guard the levees, including the power in case of threatened danger or urgent necessity, to order out persons liable to road duty to work on the levee. In those parts of the State not included in one of the eighteen levee districts, the police juries of the parishes, bodies corresponding to our boards of supervisors, have substantially the same authority as the levee commissioners. There was originally, and still is on the statute book, an act dividing the State into six levee districts, but this has been entirely superseded by a series of special statutes, each creating a separate district; the latest of these acts was passed in 1907. All these laws are substantially alike.

The most remarkable feature of this system, however, is the existence of a central authority in the shape of a State Board of Engineers, which has certain broad powers of supervision, advice and assistance over the local authorities. The idea underlying the Louisiana system appears to be that the planning and establishment of levees is to be done by the central authority, while the maintenance, after a unit of protection has once been completed, may safely be left to the local officials. In consequence of this, the building of levees has been more systematic in Louisiana than in many other places, and less affected by selfish

local and private considerations. This is shown, among other things, by the fact that a part of the State funds is expended for levees in Arkansas, which to be sure are necessary for the successful maintenance of the Louisiana levees, but which also benefit the people of the less progressive neighboring State.

The police regulations for the protection of levees are quite detailed in this State. The right of private owners to build levees in front of their lands is specially regulated, and in certain parishes abrogated altogether.

The financial management of the levee system of Louisiana is rather intricate. There is in the first place a State Improvement Fund, derived from the sale of lands; then there is a general State tax. The districts are empowered to levy special assessments, as well as a tax upon cotton, and an acreage tax. They may also issue bonds, and the tax raised by a district cannot be decreased until the bonds are paid. The apportionment of the State funds to the various districts is in the hands of the State Board of Engineers. Owing to the fact that Louisiana follows the Southern method of special legislation, it becomes even more difficult to get an insight into the finances of the levee system, but it is very evident that ample funds are provided, as indeed is necessary for the prosperity of the State.

The States along the lower Mississippi derive considerable assistance from the work of the federal government, which does not, to be sure, assume any duty to protect or reclaim lands, but in the course of maintaining the navigability of the river has been obliged to establish a good many protective works.

For a more detailed study of the laws of these and other States, and the success they have had in reclaiming and protecting lands subject to overflow, there is considerable material in the State Library, consisting of all the statute laws of the various States, as well as a large number of reports by the various State and Federal authorities.

There are, of course, other States and countries besides those considered herein, which have had similar problems of reclamation and protection against flood.

It has appeared as if the State of California would be very unwise if it tried to solve the river problem, more urgent today than ever, without profiting from the experience and example of others. It is not possible, on account of differences in social, economic, legal and political conditions, to transfer the laws of one country, or even one State, bodily to another. But it does seem possible to discover the underlying principles which are the same in all cases, if one knows how to abstract them from the varying circumstances and details. In the case of river improvements these underlying principles appear to be two: Such undertaking is a matter of public, not merely private concern; and it cannot be successfully accomplished, unless the work of local agencies is unified and supervised by some central authority.